Critical Release Notice

Publication number: 297-1001-127
Publication release: Standard 03.04

The content of this customer NTP supports the SN06 (DMS) and ISN06 (TDM) software releases.

Bookmarks used in this NTP highlight the changes between the baseline NTP and the current release. The bookmarks provided are color-coded to identify release-specific content changes. NTP volumes that do not contain bookmarks indicate that the baseline NTP remains unchanged and is valid for the current release.

Bookmark Color Legend

Black: Applies to new or modified content for the baseline NTP that is valid through the current release.

Red: Applies to new or modified content for NA017/ISN04 (TDM) that is valid through the current release.

Blue: Applies to new or modified content for NA018 (SN05 DMS)/ISN05 (TDM) that is valid through the current release.

Green: Applies to new or modified content for SN06 (DMS)/ISN06 (TDM) that is valid through the current release.

Attention!
Adobe® Acrobat® Reader™ 5.0 is required to view bookmarks in color.

Publication History

March 2004

Standard release 03.04 for software release SN06 (DMS) and ISN06 (TDM).

Change of phone number from 1-800-684-2273 to 1-877-662-5669, Option 4 + 1.

297-1001-127

DMS–100 Family

Journal File

Description

BASE04 and up Standard 03.03 April 1999

NORTEL

NORTHERN TELECOM

DMS–100 Family

Journal File
Description

Publication number: 297-1001-127
Product release: BASE04 and up
Document release: Standard 03.03
Date: April 1999

Publication history

April 1999

BASE04 and up Standard 03.03

- editing changes

May 1998

BASE04 and up Standard 03.02

- editing changes
- updated NTP references

September 1996

BASE04 and up Standard 03.01

- conversion to current Northern Telecom NTP format
- editing changes
- software identification information in the Software Identification section updated to include PRSM information

Contents

About this document

When to use this document

This document describes the Journal File (JF) feature. Feature package NTX074AA contains the JF feature. With the Device Independent Recording Package (DIRP) (see 297-1001-312), the JF feature records changes to DMS data tables. The JF feature and the DIRP also restore that data if a switch failure causes the loss of the original data.

For example, an office image occurs at 8:00 a.m. and a switch failure occurs at 12:00 p.m.. A loss of changes to switch data during the four hour interval can occur. Reload the switch with the image taken at 8 a.m. Apply the data changes recorded in the journal file. The reload and application restore the office to normal operation with data tables current.

How to check the version and issue of this document

Numbers indicate the version and issue of the document. An example is 01.01.

The first two digits indicate the version. The version number increases for each document update to support a new software release. For example, the first release of a document is 01.01. In the *next* software release cycle, the first release of the same document is 02.01.

The second two digits indicate the issue. The issue number increases for each document revision and rerelease in the *same* software release cycle. For example, the second release of a document in the same software release cycle is 01.02.

You can determine the version of this document for the software in your office. You can determine the order of the documentation for your product. The release information in *Product Documentation Directory*, 297-8991-001, contains this information.

This document is for all DMS-100 Family offices. More than one version of this document can be present. Check the release information in *Product Documentation Directory*, 297-8991-001. This information helps to

determine if you have the latest version of this document. This directory helps to determine the arrangement of the document for your product.

Publication Application

The information contained in this publication applies to offices with Batch Change Supplement (BCS) release 8 to 19 software. The information also applies to offices with a BCS release greater than 19, unless reissued. The application of all Northern Telecom Publication (NTP) editions to a BCS release is in 297-1001-001.

Software Identification

A loadname identifies the software for a specific DMS–100 Family office. To obtain the loadnames for an office, enter the following command string at a MAP (Maintenance and Administration Position):

>PRSM;SELECT INFORMLOAD;QUIT

References in this document

This document refers to the following documents:

- *Product Documentation Directory*, 297-1001-001
- *System Description*, 297-1001-100
- *Basic Translations Guide Tools Guide*, 297-1001-360
- *Device Independent Recording Package (DIRP) Administration Guide*, 297-1001-345
- *Commands Reference Manual*, 297-1001-822

What precautionary messages mean

The types of precautionary messages used in NT documents include the following:

- attention boxes
- danger messages
- warning messages
- caution messages

An attention box identifies information that is necessary for the correct performance of a procedure or task. An attention box also identifies information necessary for the correct explanation of information or data. Danger, warning, and caution messages indicate possible risks.

Examples of the precautionary messages follow.

ATTENTION Information needed to perform a task

ATTENTION

If the DS-3 ports are not in use before the installation of a DS-1/VT Mapper, the DS-1 traffic cannot carry through the DS-1/VT Mapper. This event can occur if the DS-1/VT is provisioned correctly.

DANGER Possibility of personal injury

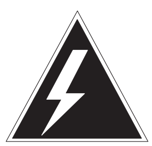


DANGER

Risk of electrocution

Only open the front panel of the inverter if fuses F1, F2, and F3 were removed. The inverter contains high-voltage lines. The high-voltage lines are active until the fuses are removed. You risk electrocution.

WARNING Possibility of equipment damage



WARNING

Damage to the backplane connector pins

To avoid bent backplane connector pins, align the card and then seat the pins. Use light thumb pressure to align the card with the connectors. Next, use the levers on the card to seat the card into the connectors.

CAUTION Possibility of service interruption or degradation



CAUTION

Possible loss of service

Before you continue, confirm the removal of the card from the inactive unit of the peripheral module. Subscriber service is lost if you remove a card from the active unit.

How commands, parameters, and responses are represented

Commands, parameters, and responses in this document conform to the following standards.

Input prompt (>)

An input prompt (>) indicates that the information that follows is a command:

>BSY

Commands and fixed parameters

The entries for commands and fixed parameters at a MAP terminal appear in uppercase letters:

>BSY CTRL

Variables

Variables appear in lowercase letters:

>BSY CTRL ctrl_no

You must enter the letters or numbers that the variable represents. A list that follows the command string explains each variable.

Responses

Responses correspond to the MAP display. The responses appear in a different type:

```
FP 3 Busy CTRL 0: Command request has been submitted.
FP 3 Busy CTRL 0: Command passed.
```

The command syntax in this document appears in the following section of a procedure:

At the MAP display terminal

1 To manually busy the CTRL on the inactive plane, type

>BSY CTRL ctrl_no
and press the Enter key.

where

ctrl_no is the number of the CTRL (0 or 1)

Example of a MAP response:

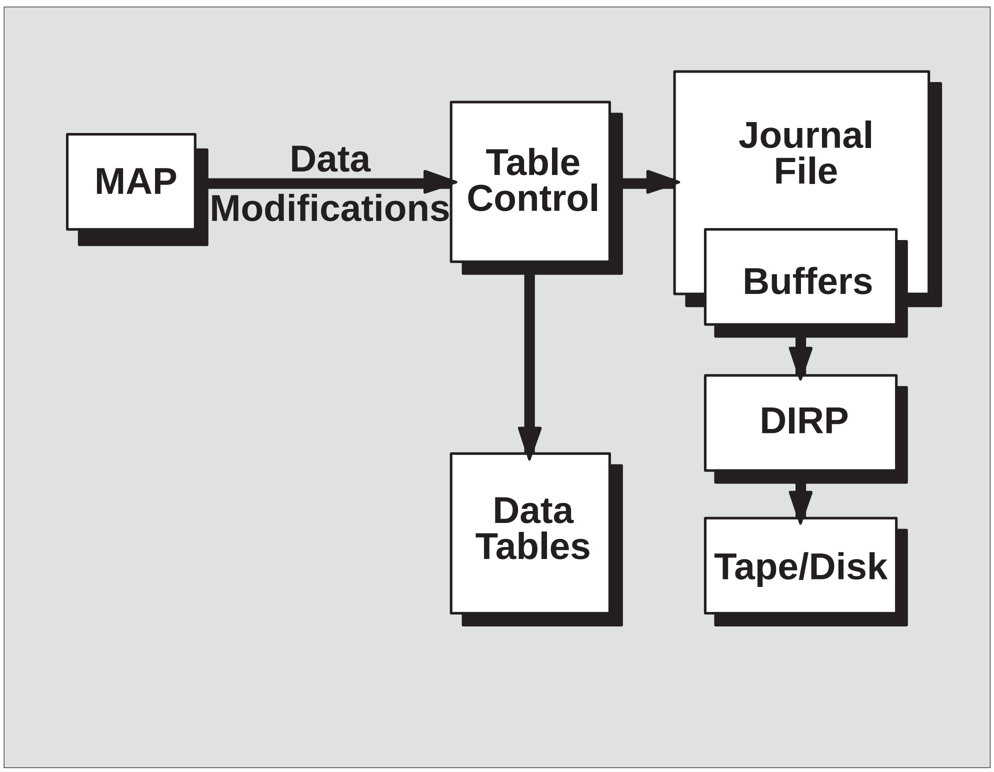
```
FP 3 Busy CTRL 0: Command request has been submitted.
FP 3 Busy CTRL 0: Command passed.
```

Working with journal files

Journal file recording and identification

Data Modifications (DM) recorded in the journal file (JF) contain Data Modification Orders (DMO) and Service Orders (SO). Refer to *Basic Translations Guide Tools Guide* for more information about DMO and SO. The system does not record each DM separately in the JF during the entry of the DM. Buffers collect several DM. When the buffers are full, the system dumps the data and records the data in the file. When a JF stops, the system dumps buffers that are partially full in the JF. An overview of JF recording appears in Figure 1-1.

Figure 1-1
Journal file capture



The DIRP assigns a different filename to each JF. The filename identifies the file according to the date and time of the creation of the file. This information allows the user to apply data in the order of the original occurrence of the data. The DIRP assigns a different record number (recnum) to each DM. The record number allows the application of part of a JF. Refer to the section “How to Apply A Journal File for more information.”

Journal file management

The JFs contain recording facilities. The DIRP provide these recording facilities. Other subsystems, like Operational Measurements (OM) and Automatic Accounting (AMA), contain recording facilities. *Device Independent Recording Package (DIRP) Administration Guide* describes the manipulation of these subsystems at the DIRP level of the MAP. This document explains the JF feature. This document outlines an accurate method of file management. This document provides references at the appropriate places in the text when the involvement of a DIRP occurs.

This document does not describe the JF command parameters RESTART and DEMOUNT. The START parameter replaces the RESTART. The DIRP-level command DMNT replaces the DEMOUNT command.

Journal file commands

The available journal file commands appear in the following sections of this chapter.

Journal file status

Purpose

You can determine the status of the journal file at any time. You can determine the status of the journal file from any level of the MAP. Use the JF command and the STATUS parameter to determine the journal file status.

The command syntax and a list of system responses (UPPERCASE) follows. Each system response has an explanation.

Command syntax

> JF STATUS

System responses

`JOURNAL FILE HAS BEEN STARTED`
Explanation: The JF is open and records DM.

`JOURNAL FILE WAS STARTED AND NO FILE IS AVAILABLE FROM DIRP`
Explanation: A JF is active, but allocation of recording resources did not occur.

`JOURNAL FILE HAS NOT BEEN STARTED AND NO FILE IS AVAILABLE FROM DIRP`
Explanation: A JF did not start since reload. Before you can start a JF, allocation of recording space must occur. Refer to “How to Start A Journal File.”

`JOURNAL FILE HAS NOT BEEN STARTED HOWEVER AN OUTPUT FILE IS AVAILABLE`
Explanation: A JF did not start since reload. You can start a JF when required.

`JOURNAL FILE HAS BEEN STOPPED AND NO FILE IS AVAILABLE FROM DIRP`
Explanation: An active JF stops. Refer to How to Stop A Journal File. Before you can start a JF, allocation of recording space must occur. Refer to How to Start A Journal File.

`JOURNAL FILE HAS BEEN STOPPED HOWEVER AN OUTPUT FILE IS AVAILABLE`
Explanation: An active JF stops. Refer to How to Stop A Journal File. You can start a JF when required

Use the JF command during procedures that involve the journal file. This action informs the user of changes in the current state of the JF. The JF command does not affect the procedures.

Starting a journal file

Purpose

Under normal conditions, a journal file starts immediately after taking an office image.

When a reload occurs, apply journal files before you start a new journal file. This procedure makes sure that the system captures all DM again in the office. A new JF starts after this procedure.

If the JF records on tape, you must mount the tape before you start the JF. Use the the DIRP-level command MNT to mount the tape. If you use a disk, this command is necessary when you first assign a recording volume. Refer to *Device Independent Recording Package (DIRP) Administration Guide* for details on file manipulation through DIRP.

To start a journal file, use the JF command with the START parameter. The following sections of this document provide the command syntax and a list of system responses (UPPERCASE). Each system response has a quick explanation.

Command syntax

> JF START

System responses

`JOURNAL FILE STARTED`

Explanation: The command is successful.

`JOURNAL FILE ALREADY STARTED`
`JOURNAL FILE NOT STARTED`

Explanation: The JF does not stop because a previous JF START command does not have an effect.

User action: Stop JF. Refer to How to Stop A Journal File. Repeat JF START command.

`JOURNAL FILE DOES NOT EXIST`
`JOURNAL FILE NOT STARTED`

Explanation: A file is not available from DIRP. The user did not allocate recording resources.

User action: Allocate recording volume through DIRP. Refer to *Device Independent Recording Package (DIRP) Administration Guide*.

Starting a journal file (end)

The JF START command makes the JF available for the system to record. The JF remains in this state until you use the JF STOP command, except for switch failure. Refer to “How to Stop A Journal File.” Use the STOP and START commands each time an office image is taken.

For detailed instructions on starting a journal file, refer to *Product Documentation Directory.*

Stopping a journal file

Purpose

Under normal conditions, a journal file stops immediately before taking an office image. The JF is not available for input from the system. An attempt to input DM causes a system response. The system response informs the user that the JF does not record.

To stop a journal file, use the JF command with the STOP parameter. The following sections of this document provide the command syntax and a list of system responses (UPPERCASE). Each system response includes a quick explanation.

Command syntax

> JF STOP

System responses

`WAITING FOR OUTPUT TO COMPLETE`
Explanation: System dumps data in JF.

User action: Wait for the next response.

`JOURNAL FILE STOPPED`
Explanation: The command is successful.

`JOURNAL FILE ALREADY STOPPED`
Explanation: The user did not start the JF since previous JF STOP. The command does not have an effect.

User action: When a reload occurs, manually enter the data that is not recorded again.

`JF BUFFERS NOT EMPTIED TO THE OUTPUT FILE`
`OUTPUT NOT COMPLETE IN 1 MINUTE`
Explanation: The system allows a maximum of one minute to dump all data. After the data dump occurs, the JF stops. The loss of some data can occur. A system error is normally the cause of the data loss.

User action: When a reload occurs, manually enter all data that is not recorded again. Contact the Maintenance Support Group to correct the fault.

`JOURNAL FILE DOES NOT EXIST`
`JOURNAL FILE BUFFERS NOT EMPTIED TO THE OUTPUT FILE`
Explanation: A file is not available from DIRP. Allocation of the recording resources did not occur.

Stopping a journal file (end)

User action: When a reload occurs, manually enter all data that is not recorded again.

`JOURNAL FILE INTERRUPT ERROR`
Explanation: System error.

User action: Contact the Maintenance Support Group to correct the fault.

If the file is on tape, demount the JF after the JF stops. Use the DIRP-level command DMNT to demount the JF. This command closes the file. This command de-allocates the JF from the system.

If the file is on disk, you do not have to demount the recording volume. Refer to, *Device Independent Recording Package (DIRP) Administration Guide* for details on file manipulation through DIRP.

For detailed instructions on stopping a journal file, refer to, *Product Documentation Directory.*

Applying a journal file

Purpose

When a reload occurs, apply the appropriate JF immediately after you load the current office image. Do not start a new JF until the application of all relevant data is complete.

When the JF is on tape, the system normally records the JF at the end of the current image. The tape is mounted on the Autoload device. The system winds the tape to the end of the image for this purpose. After the reload, the JF is in place for immediate application.

The DIRP assigns a different filename to each JF. The filename identifies the file according to the time of creation of the JF. The filename has the following format:

XyymmddhhmmssJF

Where:

X file state (refer to note)

yy year

mm month

dd day

hh hour

mm minute

ss sequence number (00-99)

JF type of file

Note: In JF, a letter indicates the file state: A (available) or R (removed).

The application of more than one journal file can be required. In this condition, the filename of each journal file determines the order of the creation of the journal files.

The DIRP assigns a different record number (recnum) to each DM as the DM entry occurs. The record numbers values range from 0 to 32767. For partial application of a JF, the recnum can specify a DM. A description of partial application appears later in this section.

Applying a journal file (continued)

Before the application of a JF, the file must appear in the Command Interpreter (CI) directory. Refer to *Commands Reference Manual*. To apply JF data to the switch, use the JF command with the APPLY parameter. The JF filename and the recnum follow the APPLY parameter. The recnum in this event is an option. The command syntax and a list of system responses (UPPERCASE) appear in the following sections of this document. Each system response has an explanation.

Command syntax

> JF APPLY filename [recnum]

Responses

```
THIS IS A JOURNAL FILE STARTED ON yy/mm/dd
Please confirm (”YES” or ”NO”)
```

Explanation: The JF is ready for application.

User action: To proceed with application, input YES.

Note: When the date in system response is different than the date in the specified filename, consult your Maintenance Support Group.

```
JOURNAL FILE EXISTS
DMOS NOT APPLIED TO SWITCH DATA
```

Explanation: The start of a JF occurs since the reload of the switch.

User action: Manually enter the data in the relevant JF again.

```
FILENAME NOT FOUND
DMOS NOT APPLIED TO SWITCH DATA
```

Explanation: JF is not in the CI directory.

User action: List the appropriate recording volumes. Refer to 297-1001-509. Repeat the command.

```
UNABLE TO RETRIEVE FIRST JF RECORD
DMOS NOT APPLIED TO SWITCH DATA
fsrc
```

Explanation: The system cannot read the first record of the specified JF. The File System Return Code (fsrc) identifies the type of error.

User action: Refer to 297-1001-312 for an explanation of fsrc.

```
JOURNAL FILE ATTRIBUTES IN ERROR
DMOS NOT APPLIED TO SWITCH DATA
fsrc
```

Explanation: The wrong type of file is applied. An example of the type of file can be OM or AMA. The fsrc identifies the type of error.

Applying a journal file (end)

User action: Consult *Device Independent Recording Package (DIRP) Administration Guide* for an explanation of fsrc.

```
DMOS NOT APPLIED TO SWITCH DATA
fsrc
```

Explanation: The fsrc identifies the type of error.

User action: Refer to *Device Independent Recording Package (DIRP) Administration Guide* for explanation of fsrc.

```
n JOURNAL FILE DMOS APPLIED
n JOURNAL FILE DMOS FAILED
n JOURNAL FILE DMOS IGNORED
n DIRP TABLE DMOS IGNORED
```

Explanation: These summary responses are normal. The summary responses occur after the execution of the command. The letter n represents the number of relevant DM.

User action: Manually enter failed and ignored data again.

A problem with one or more DM in the file can cause an application failure. When this condition occurs, you can apply the part of the JF up to the first failed DM. To apply this part of the DM, use the recnum parameter to specify the record number of the entry immediately before the DM. This procedure applies to all DM up to the specified DM. The procedure applies the specified DM. Manually apply the DMs that remain again.

You must enter DM that are not recorded in a journal file again. An example of these DMs are the DMs entered while the JF is stopped. To prevent the accumulation of data that is not recorded, do not enter a DM when the JF is not available. The prevention of the accumulation of data that is not recorded is important when a reload of the switch is required. The reload of the switch occurs with an image that is not the current image. When this event occurs, enter the DM entered since the date and time of the image again. This DM is not recorded.

The system ignores the DM that effect changes to DIRP tables during the application of the JF. The DIRP tables are DIRPSSYS, DIRPPOOL and DIRPHOLD. Enter changes to these tables since the date and time of the image again.

For instructions on how to apply a JF, refer to *Product Documentation Directory*.

Printing a journal file

Purpose

In offices with feature package NTX176AA, you can use the JFPRINT command to convert JF data to a form that the system can read. This conversion allows a user to read the contents of a journal file. The printout contains the information for each DM. This information includes: table name, tuple changed and, as of BCS 16, the record number of each DM in the file.

To print the current active JF:

- Make sure the JF is in the stopped state.
- Demount the tape through the DIRP-level command DMNT if the file is on tape. If the file is on disk, close the file through the DIRP-level command CLOSE, refer to *Device Independent Recording Package (DIRP) Administration Guide*.
- Mount the tape through the CI MOUNT command if the file is on tape.

Before you print a JF, the tape or disk volume must appear on the list. The following sections of this document list the JFPRINT command syntax. An explanation of the parameters of the JFPRINT command syntax follows the command syntax. The sections also provide a list of system responses (UPPERCASE) and explanations.

Command syntax

> JFPRINT filename to_filename to_device

where

filename is the filename of the JF to be converted; format is described in “Applying A Journal File.”
to_filename is the name assigned by the user to the new converted file; a maximum of 32 alphanumeric characters.
to_device identifies the recording device to which the converted file is being sent; for example tape drive, disk volume, printer, terminal.

System responses

If the command is successful, conversion occurs. The system does not give a direct response.

```
OUTPUT FILE CLOSE ERROR
fsrc
```

Explanation: System cannot close the file that receives converted data. The fsrc identifies the type of error.

Printing a journal file (continued)

User action: Refer to 297–1001–312 for an explanation of fsrc.

```
JOURNAL FILE CLOSE ERROR
fsrc
```
Explanation: System cannot close originating file. The File System Return Code (fsrc) identifies the type of error.

User action: Refer to 297–1001–312 for an explanation of the fsrc.

```
OUTPUT FILE WRITE ERROR
fsrc
```
Explanation: System cannot write to the file; the file cannot receive the converted data. The fsrc identifies the type of error.

User action: Refer to *Device Independent Recording Package (DIRP) Administration Guide* for an explanation of the fsrc.

```
JOURNAL FILE NOT OPENED
fsrc
```
Explanation: System cannot open the originating file. The system cannot process the file. The fsrc identifies the type of error.

User action: Refer to *Device Independent Recording Package (DIRP) Administration Guide* for an explanation of fsrc.

```
OUTPUT FILE CREATE ERROR
fsrc
```
Explanation: System cannot create a file; the file cannot receive the converted data. The fsrc identifies the type of error.

User action: Refer to *Device Independent Recording Package (DIRP) Administration Guide* for an explanation of fsrc.

```
JOURNAL FILE READ ERROR
fsrc
```
Explanation: System cannot read the originating file. The fsrc identifies the type of error.

User action: Refer to *Device Independent Recording Package (DIRP) Administration Guide* for an explanation of fsrc.

```
CANNOT ADD OUTPUT FILE TO USER DIRECTORY
fsrc
```
Explanation: The user directory is full or the system cannot access the user directory. The fsrc identifies the type of error.

Printing a journal file (end)

User action: Refer to *Device Independent Recording Package (DIRP) Administration Guide* for an explanation of the fsrc.

JOURNAL FILE ATTRIBUTES IN ERROR
Explanation: The specified file in the command not the correct type.

User action: Make sure the entry contains a correct journal file filename.

Note: To convert a JF through JFPRINT, the switch must contain the same load as the load on which the journal file was created.

If the system records a new file on tape or disk, the user can obtain a printout. To obtain a printout, list the tape or disk volume and use the CI level PRINT command with the new filename. To convert the file directly to print you can specify a printer as the to_device. If you specify INPUT as the to_device, the converted information appears at the user terminal.

For detailed instructions on how to print a journal file, refer to *Product Documentation Directory.*

Archiving journal files

Purpose

A current journal file JF contains a record of the most recent DM entered, from the time of the last image. You can reload the switch from an earlier backup image. When you reload the switch you must apply all of the same changes. Apply all of the changes that occurred between the date of the current image and the time of the reload. To change data, use one the following methods:

- You can enter every DM from the date of the last image. Enter the DM in the original entry sequence.
- If all of the image tapes with the attached journal files, are available, you can mount the tapes. You can apply the JF of each tape to the switch. Apply the JF in the original order.
- You can archive the journal files on a separate tape. You can apply the journal files after the reload. Begin with the JF that corresponds to the image in use.

The first two methods consume time. The second method requires an excess amount of storage space. To archive tapes, copy the journal files at standard intervals. To prepare for an emergency, maintain a duplicate of the files.

Method

The operating company determines when to copy the journal files. To archive the files, the operating company also determines which system to use. The operating company determines these elements according to the needs of the office. You can use the following method:

1. Copy the JF after each image.
2. At the end of each week, transfer the image copies to a weekly archive.
3. At the end of four weeks, transfer the weekly archives to a monthly record.
4. After three months, create a quarterly archive.

On the archive tape label, indicate the duration of the record and the filename of the first JF on the tape.

For detailed instructions on how to copy files, and a detailed description of the suggested archive method, refer to *Product Documentation Directory*.

List of terms

AMA

Automatic message accounting

BCS

Batch change supplement

CI

Command interpreter

DIRP

Device independent recording package

DM

Data modification

DMO

Data modification order

fsrc

File system return code

JF

Journal file

MAP

Maintenance and administration position

OM

Operational measurement

recnum

Record number

SO

Service order

DMS–100 Family

Journal File

Description

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